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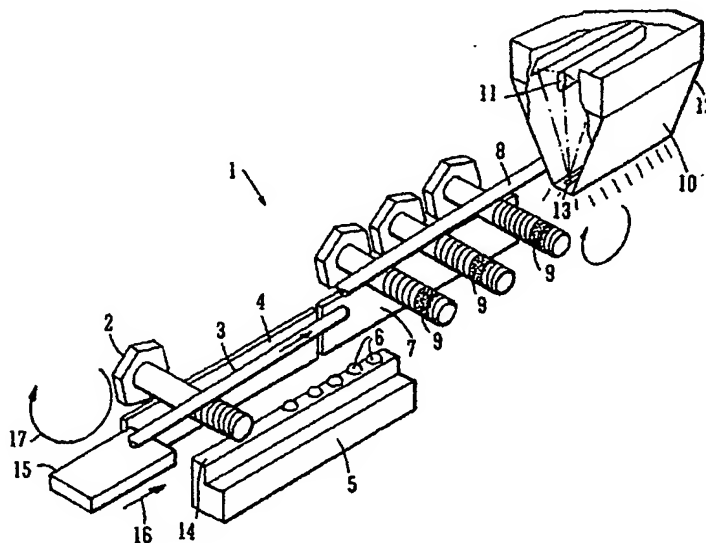
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[Continued on next page]

(54) Title: AN APPARATUS FOR THE APPLICATION OF A CURABLE COMPOSITION TO A FASTENER AND CURABLE COMPOSITIONS SUITABLE FOR APPLICATION TO A FASTENER



(57) Abstract: An apparatus (1) for the application of a composition curable by irradiation to a fastener (2) having a conveyor (3) for conveying fasteners to an application station (5); an application station (10) comprising an applicator from which the composition is dispensed. The conveyor rotates the fasteners past the applicator for application of composition. The same or another conveyor (8) conveys the fasteners to an irradiation station (10) and rotates the fasteners for irradiation thereof. The irradiation station irradiates and thus cures the composition applied to each fastener. The invention also provides a curable composition for application to a threaded article.



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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# INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/IE 03/00122

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B05C9/14 B05C13/02 B05C9/02 B05C11/10 C09J4/00  
C08L63/00 C08F290/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B05C B05B B29C C09J C08L C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 154 194 A (ENDLICH WILHELM ET AL) 15 May 1979 (1979-05-15) column 3, line 38 - line 51 column 4, line 20 - line 38 column 4, line 53 - line 63 column 6, line 11 - line 64 column 7, line 29 - line 50 column 8, line 12 - line 34 figures	1-24, 27-30
Y	----- -/--	25, 26

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

26 February 2004

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31.03.04

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IE 83/00122

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 651 824 A (WALLACE JOHN S ET AL) 29 July 1997 (1997-07-29)  column 3, line 8 - line 28 column 4, line 17 - line 40 column 5, line 63 - column 6, line 15 figures	1,3-6, 10,11, 14,20, 23,27-30
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A	US 5 817 177 A (WALLACE JOHN S) 6 October 1998 (1998-10-06) column 4, line 7 - line 18 column 5, line 7 - line 18	1
X	US 5 426 130 A (THURBER MARK C ET AL) 20 June 1995 (1995-06-20)  column 6, lines 11-30 column 14, lines 11-32 column 22, lines 13-39	34-38, 44,45, 51,54, 55,66-68
X	GB 2 255 781 A (REACTIVE IND INC) 18 November 1992 (1992-11-18) cited in the application page 11, lines 3-22; claims 1,28	34
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# INTERNATIONAL SEARCH REPORT

International Publication No  
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 3 746 068 A (DECKERT F ET AL) 17 July 1973 (1973-07-17) claim 1</p> <p>-----</p>	34

# INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/IE 03/00122

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
1-30, 34-68
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-30

An apparatus for the application of a composition to a fastener, comprising a conveyor system, an application station and an irradiation station.

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2. claims: 31-33

A feed supply system for supplying a composition to an application station comprising a volumetric supply pump.

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3. claims: 34-68

A curable composition suitable for use in threadlocking applications.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Publication No

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Information on patent family members

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